

PART 5 — INSTALLATION PROCEDURE

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Most items of equipment are sent fully assembled and unpacking is straightforward, providing care is used and attention is paid to any accompanying instructions - see Fig 1.1 for a typical example of packaging. Certain points that should not be overlooked are given in the following paragraphs.

During unpacking check all of the items against the packing slips and carefully inspect for damage in transit. Missing or damaged items should be reported to the address of the despatcher quoted on the invoice.

A P841 typewriter and its stand are packed into one box. The typewriter should be unbolted from the protective transit base board before being mounted upon the stand, inside which will be found the suppliers manual giving the reassembly details.

The transport lock string of the P824 moving head disc unit carriage must be disconnected after the unit has been unpacked, as explained in the suppliers manual.

On the PER1415 line printer the carriage and platen are blocked for transit. Items marked REMOVE BEFORE OPERATING must be removed therefore and stored safely for possible future use.

On the Documation M300 Card reader the blower motor is secured for transit. Two red screws in the bottom plate should be removed therefore (using Phillips screwdriver) to release the moter. The screws should be retained for possible future use.

A P811-001 or P812-001 (Data Products) line printer should be moved into position, using a fork lift truck, before it is unbolted from the shipping pallet and set level on its adustable feet.

Note: When unpacking equipment it should be borne in mind that the equipment may require re-packing again later for forwarding to a new location. Care should therefore be exercised to preserve all packing materials and to note the methods used in the original packing.

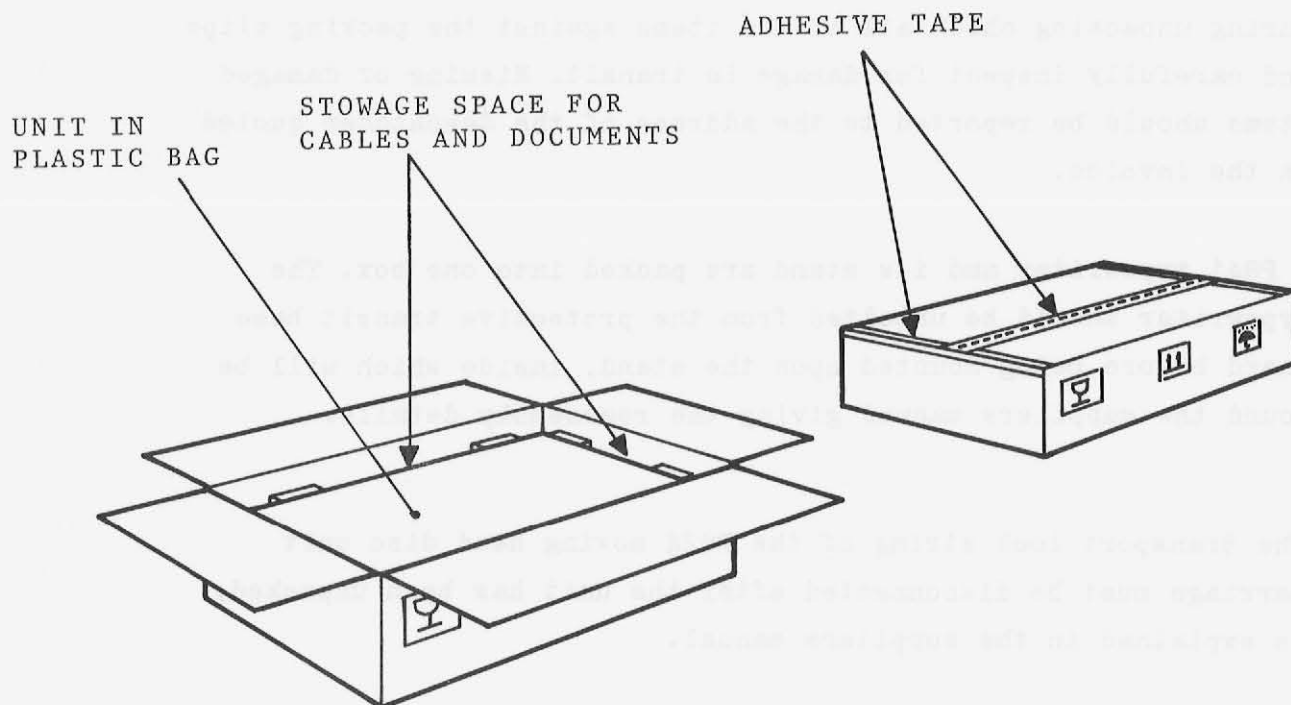


FIG. 1.1 TYPICAL P852M/P856M/P857M PACKAGE

This chapter outlines the steps to be taken when installing the equipment; if difficulties should arise during the installation the service office quoted in the Service Contract should be contacted for specialist assistance. If there is no service contract contact the nearest Philips office. Prior to packing and despatch to the site the equipment will have undergone an overall system check during which all the necessary settings and adjustments will have been made. Thus, installation on site primarily involves unpacking (described in Chapter 1), checking that nothing has been damaged or disturbed during transit, locating the various units in position, and then making all the required interconnections. A few preliminary checks are then applied to ensure that the system is ready for commissioning in accordance with the test programs devised for the particular system configuration.

Installation

The following installation steps are for general guidance and the order in which the steps are given need not necessarily be followed. Specific information about I/O locations and rack layout and cabling is given in the Configuration Sheets which are delivered with the equipment (See example in the Appendix). Refer to the earlier parts of this manual for the relevant details concerning cabinet assemblies, rack mounting fixtures, unit and rack interconnections.

- (a) Internally inspect each unit to ensure that circuit cards and connections have not become loosened during transit. Also check that the mains input settings correspond to the site supplies and that the mains connections cables terminate in the correct plugs - DO NOT CONNECT TO THE MAINS AT THIS STAGE. Refer to Part 2 Chapter 5 and Part 3 Chapter 2 for information regarding mains input adaption (the equipment is normally delivered suited to the site mains supplies so that adaption should not be necessary). Refer also to the Appendix for details of mains cable colour codings and the standard plug which is usually fitted.

WARNING

As the colour coding may vary for different units it is advisable to ensure that the correct earth wire has been selected by checking for low resistance between the wire and frame with an ohmmeter.

- (b) Assemble the rack cabinets in accordance with the pre-determined layout then check that the internal wiring is undamaged and conforms to the wiring diagrams (provided in configuration sheets).

Note: If a P849-039 kit for mounting a P824-002 disc unit is included with the equipment it is convenient at this stage to fit the pedestal part of the kit as this is most easily done by tilting the cabinet backwards to secure the pedestal to the cabinet using the bolt provided.

- (c) Insert any separately packed I/O cards into the assigned basic mounting box or equipment shelf locations. For card identification see the part number list given in the Appendix.

Note: Remove the intercard transit protection sheets from the basic mounting box and from the equipment shelves.

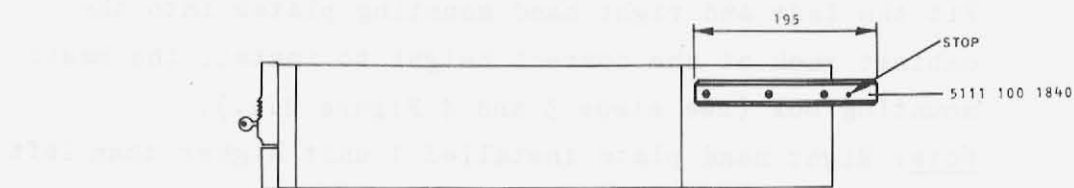
- (d) Assemble the telescopic slide assembly to the basic mounting box (See Fig 2.1.) and fit the mounting box into the rack as follows:

Step 1. Attach the two runners to the basic mounting box using the screws provided.

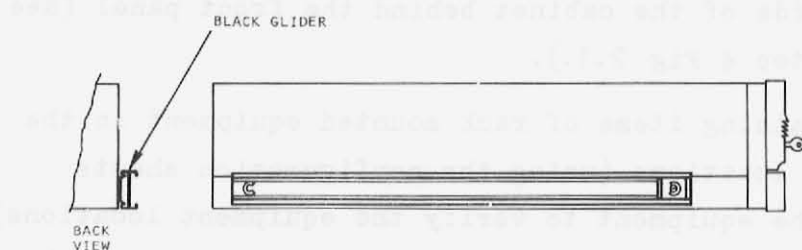
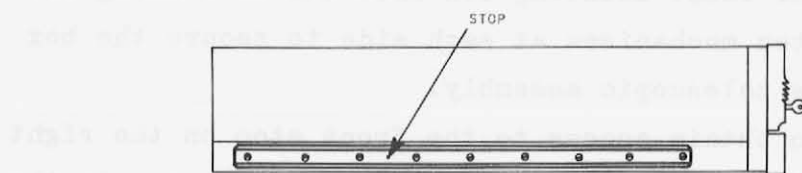
Step 2. Fit the two locking assemblies to the black glider and attach the glider over the runner on the left side of the basic mounting box, securing in position using the rear locking assembly. (see back view step 2 in Fig. 2.1.).

Step 3. Attach the rack runner to the left hand rack mounting plate provided using the screws supplied.

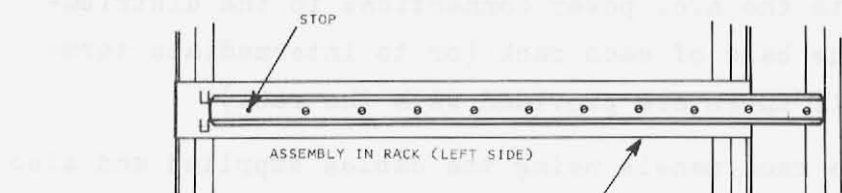
Step 4. Fit the locking assembly to the remaining black glider (see side view step 4 Fig 2.1.) and attach the glider



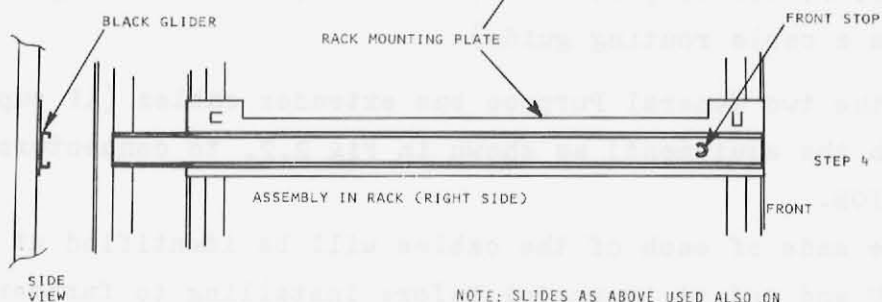
STEP 1



STEP 2



STEP 3



STEP 4

NOTE: SLIDES AS ABOVE USED ALSO ON
P843-001 EQUIPMENT SHELF.
SLIDE SHOWN ON LEFT HAND SIDE
OF BOX ABOVE IS USED ON BOTH
SIDES OF EQUIPMENT SHELVES
P833-152 (CASSETTE SHELF) AND
ON BOTH SIDES (UPPER HALF) OF
P852M/P856M/P857M-400 SERIES
AND P857M-500 SERIES MOUNTING
BOXES

FIG. 2.1. ASSEMBLING TELESCOPIC SLIDES

to the right hand rack mounting plate provided using the screws supplied.

Fit the left and right hand mounting plates into the cabinet rack at the correct height to install the basic mounting box (see steps 3 and 4 Figure 2.1.).

Note: Right hand plate installed 1 unit higher than left hand plate.

Mount the basic mounting box into the rack using the front stop mechanisms at each side to secure the box into the telescopic assembly.

Note: To obtain access to the front stop on the right side of the rack assembly entails access to the side of the cabinet behind the front panel (see step 4 Fig 2.1.).

- (e) Install the remaining items of rack mounted equipment in the prescribed rack locations (using the configuration sheets provided with the equipment to verify the equipment locations) and then complete the a.c. power connections to the distribution panel at the base of each rack (or to intermediate terminating blocks if these are provided with the rack).
- (f) Interconnect the rack panels using the cables supplied and also the cables fitted as part of the cabinet (use the configuration sheets as a cable routing guide).
- (g) Connect the two General Purpose bus extender cables (if supplied with the equipment) as shown in Fig 2.2. to connectors IOM and IOB.

Note: The ends of each of the cables will be identified at the CPU end and it is useful before installing to further identify the other appropriate ends of each of the cables as IOM or IOB to avoid confusion when the cables are installed.

- (h) Connect the break request cable (if used with the system) to the basic mounting box as shown in Figure 2.2.

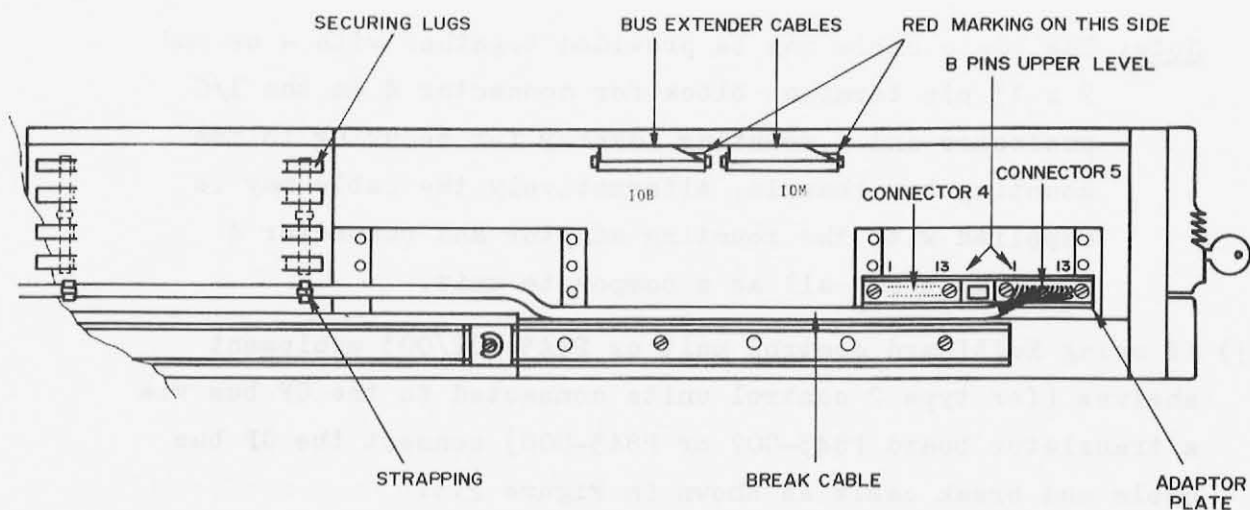


FIG. 2.2. GP BUS AND BREAK CABLE CONNECTION

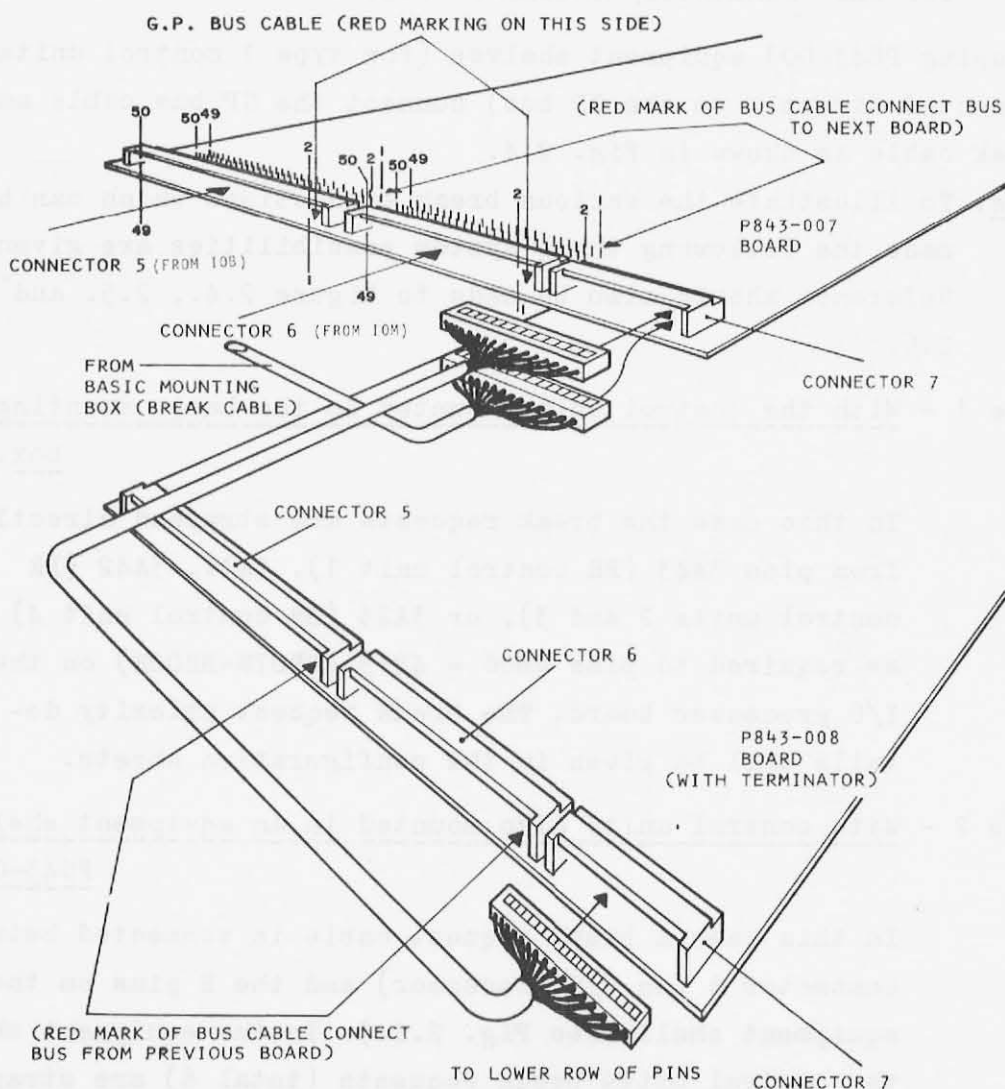


FIG. 2.3. BUS AND BREAK CABLE EXTENSION (using BUS TRANSLATOR BOARDS)

Note: The basic cable may be provided together with a second 2 x 13 pin terminal block for connector 4 on the I/O processor and a mounting adaptor for securing to the mounting box chassis. Alternatively the cable may be supplied with the mounting adaptor and connector 4 terminal block all as a composite unit.

- (j) If using Multicard control unit or P843-002/003 equipment shelves (for type 2 control units connected to the GP bus via a translator board P843-007 or P843-008) connect the GP bus cable and break cable as shown in Figure 2.3.

Note: The figure shows the extension to a second equipment shelf in which the GP bus is terminated using a P843-008 bus translator/terminator board.

- (k) If using P843-001 equipment shelves (for type 1 control units connected directly to the GP bus) connect the GP bus cable and break cable as shown in Fig. 2.4.

Note: To illustrate the various break connections which can be made the following three system possibilities are given. Reference should also be made to Figure 2.4., 2.5. and 2.6.

Case 1 - With the control units mounted in the basic mounting box.

In this case the break requests are strapped directly from pins 3A43 (BR control unit 1), 3A41, 3A42 (BR control units 2 and 3), or 3A23 (BR control unit 4) as required to pins 4B06 - 4B13 (BR07N-BR00N) on the I/O processor board. The break request priority details will be given in the configuration sheets.

Case 2 - With control units also mounted in an equipment shelf P843-001

In this case a break request cable is connected between connector 5 (on I/O processor) and the B pins on the equipment shelf (see Fig. 2.4.). In the equipment shelf the control units break requests (total 6) are strapped to pins A00-A07 (BR00N-07N) as required. At the I/O processor in the basic mounting box the appropriate BR

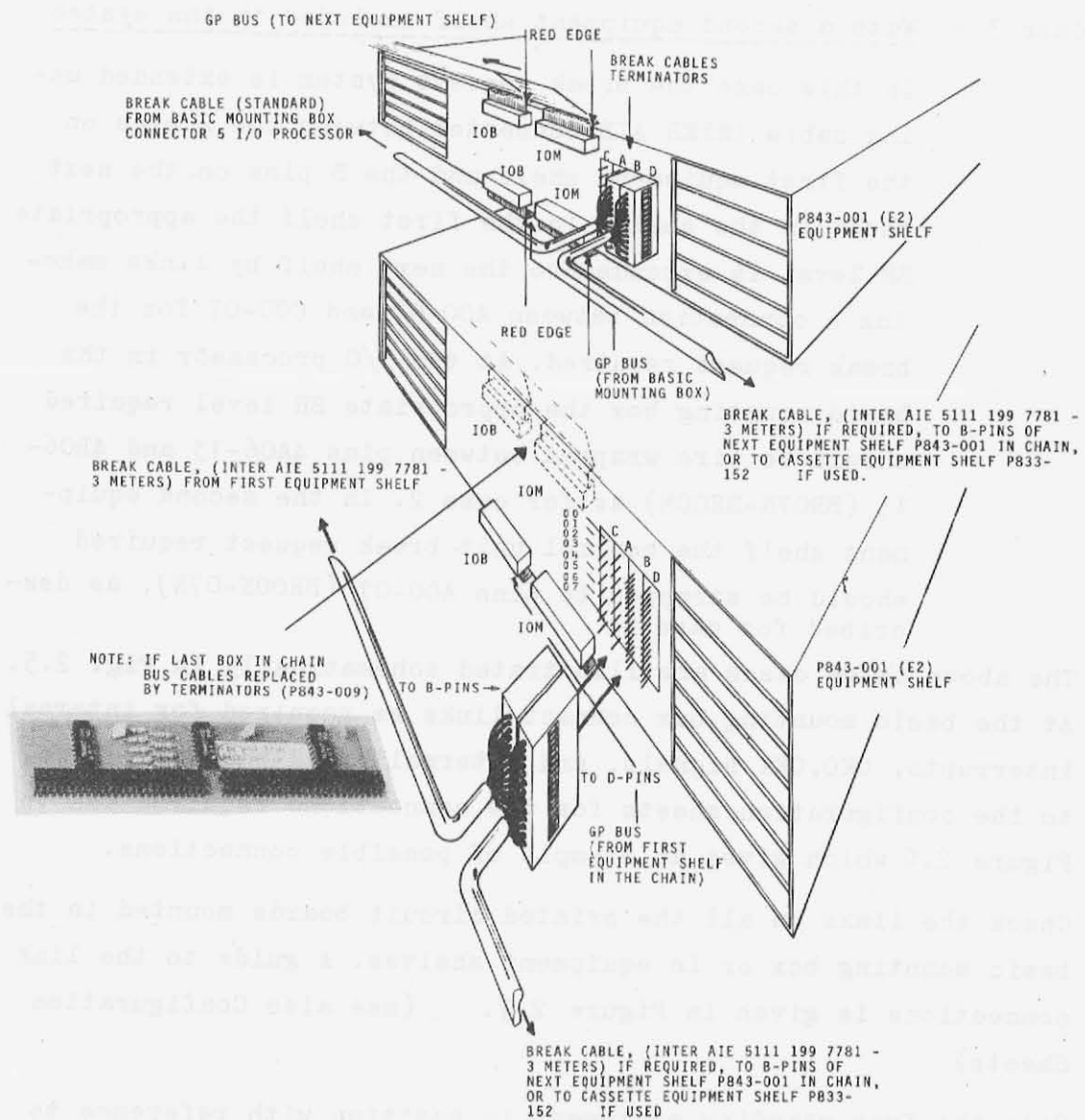


FIG. 2.4 BUS and BREAK CABLE EXTENSION
(using P843-001 EQUIPMENT SHELF)

level is wire wrapped between pins 4A06-13 and 4B06-13 (BRO7N-BROON) as required.

Case 3 - With a second equipment shelf included in the system

In this case the break request system is extended using cable INTER AIE connected between the D pins on the first equipment shelf and the B pins on the next shelf in the chain. In the first shelf the appropriate BR level is extended to the next shelf by links making a connection between A00-07 and C00-07 for the break request required. At the I/O processor in the basic mounting box the appropriate BR level required should be wire wrapped between pins 4A06-13 and 4B06-13 (BRO7N-BROON) as for case 2. In the second equipment shelf the control unit break request required should be strapped to pins A00-07 (BROON-07N), as described for case 2.

The above three cases are illustrated schematically in Fig. 2.5.

- (l) At the basic mounting box connect links as required for internal interrupts, OKO, OKI signals, and internal break requests. Refer to the configuration sheets for the connections required and to Figure 2.6 which gives an example of possible connections.
- (m) Check the links on all the printed circuit boards mounted in the basic mounting box or in equipment shelves. A guide to the link connections is given in Figure 2.7. (see also Configuration Sheets)
- (n) Site the free standing equipment in position with reference to any suppliers instructions; ensure that table top models requiring air from underneath are not stood upon loose materials which are liable to block the ventilation louvres.
- (o) Remove from the peripheral devices any items which are identified with - REMOVE BEFORE OPERATING - labels.
- (p) Using the Configuration Sheets as a guide, connect all signal cables from the peripheral devices to the associated I/O cards housed either in the basic mounting box or in equipment shelves

Example of one possible arrangement:

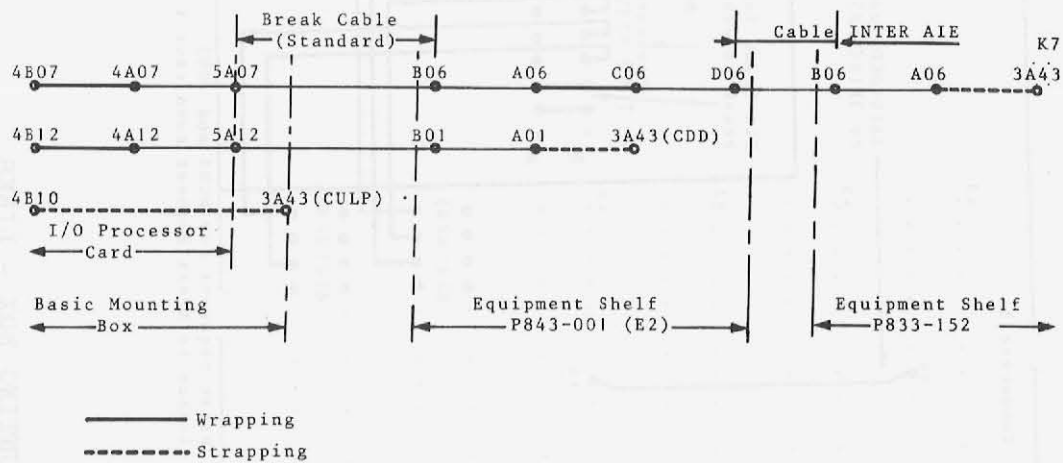
Configuration for CULP (BRO3N) mounted in basic mounting box

CDD (BRO1N) mounted in equipment shelf

P843-001 (E2)

Cassette (BRO6N) mounted in equipment shelf

P833-152.



Note: The above is an example of only one possible arrangement - other arrangements are also possible.

FIG. 2.5 BREAK CABLE INTERCONNECTIONS



FIG. 2.6 BASIC MOUNTING BOX - LINKS

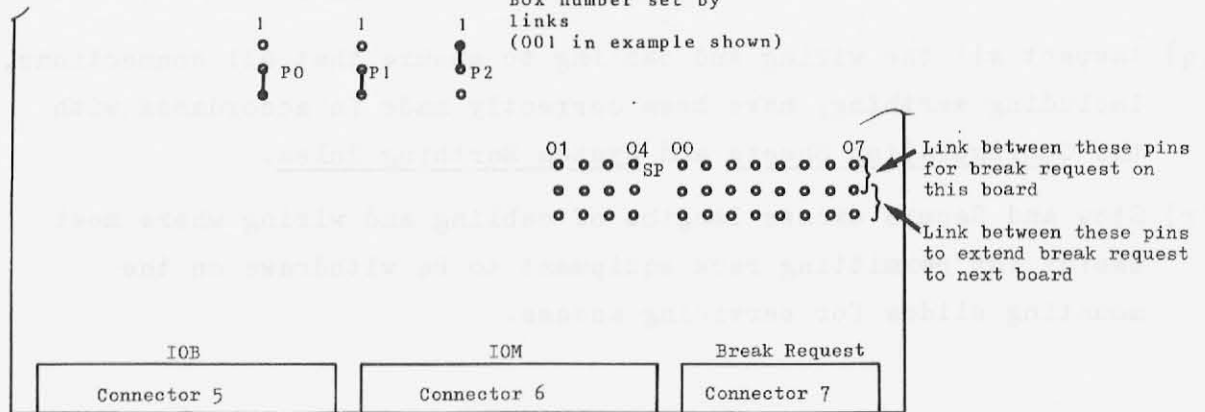
- (q) Inspect all the wiring and cabling to ensure that all connections, including earthing, have been correctly made in accordance with the Configuration Sheets and System Earthing Rules.
- (r) Stow and Secure excess lengths of cabling and wiring where most useful for permitting rack equipment to be withdrawn on the mounting slides for servicing access.

Preliminary Checks

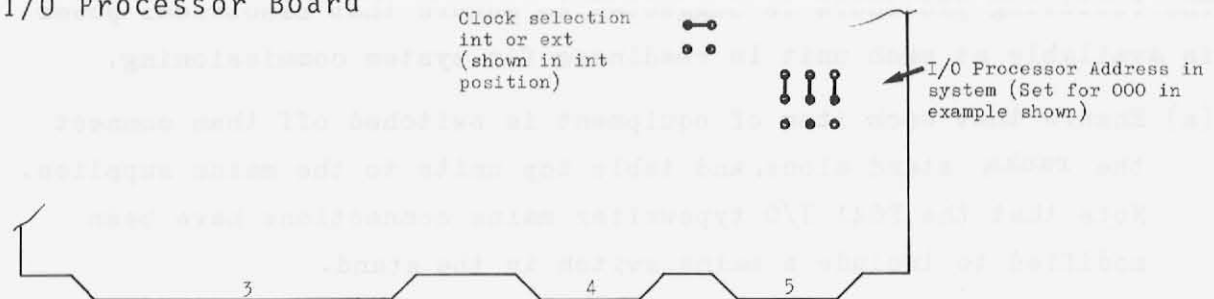
The following procedure is suggested to ensure that electrical power is available at each unit in readiness for system commissioning.

- (a) Ensure that each item of equipment is switched off then connect the racks, stand alone, and table top units to the mains supplies. Note that the P841 I/O typewriter mains connections have been modified to include a mains switch in the stand.
- (b) Switch on the mains input to the racks and check that the rack cooling fans are running. If not, disconnect the mains and examine fuses and connections.
- (c) Switch on each device in turn, starting with the central processor so that the peripheral controllers are activated before the peripheral devices become operable. In each case check that power is present by observing the indicator lamps display and that the internal cooling fans are running or, if necessary, by a trial start. Where power remains absent disconnect the unit concerned from the mains and examine the associated fuses and connections.

Bus Translator Board



I/O Processor Board



MCU3 Board

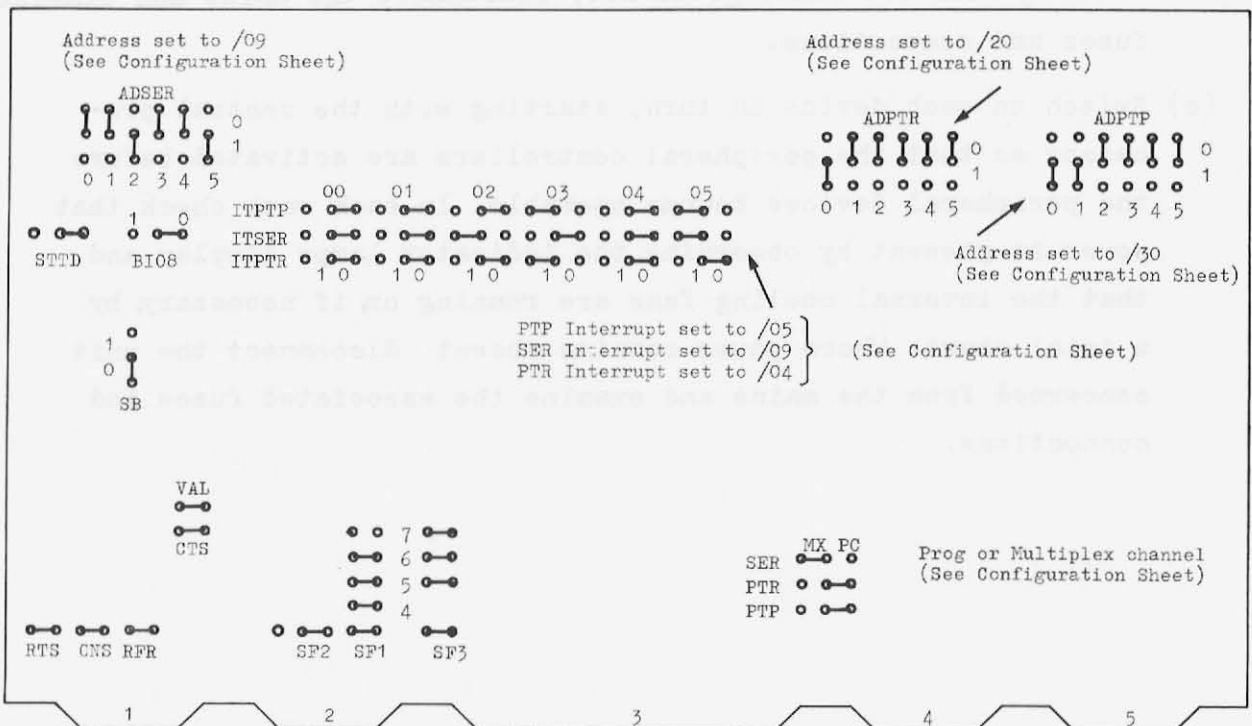
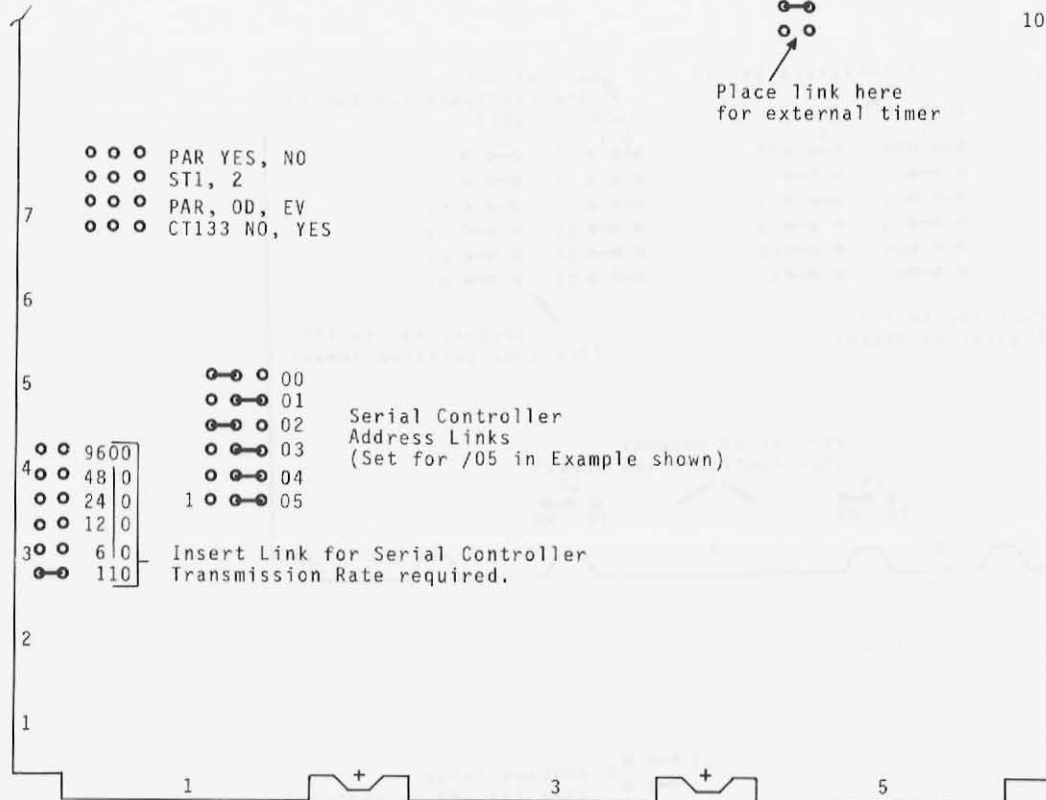


FIG. 2.7A. LINKS ON PRINTED CIRCUIT BOARDS

CPU Board P856M/P857M



DIOD Board

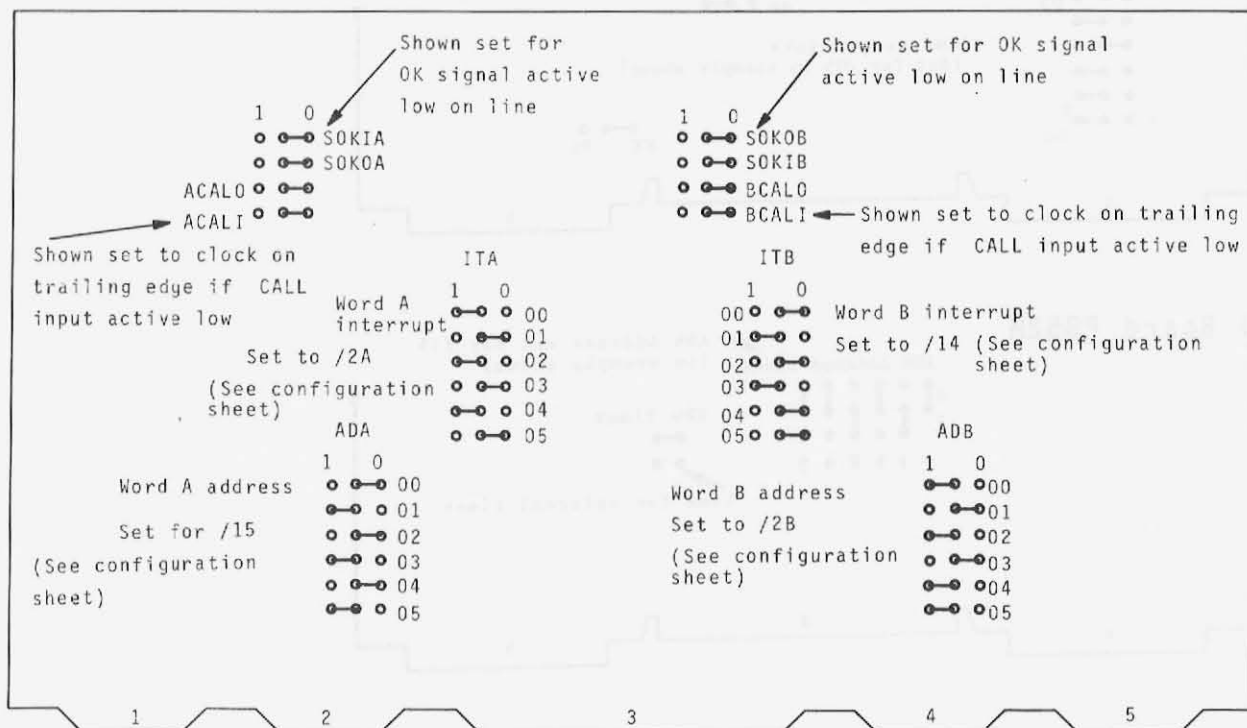
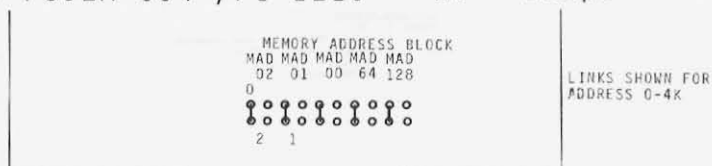
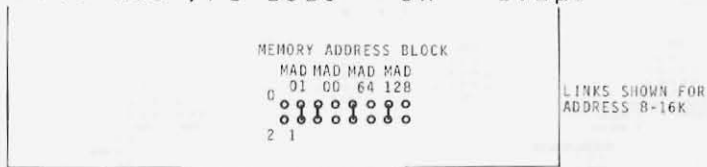


FIG. 2.7C LINKS ON PRINTED CIRCUIT BOARDS

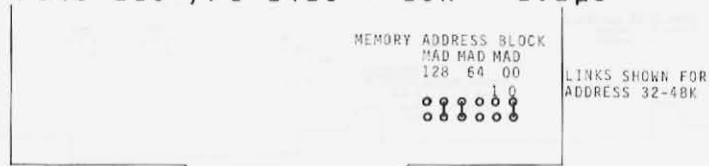
1 P852M-004 /FI 1216 - 4k - 1.2 μ s



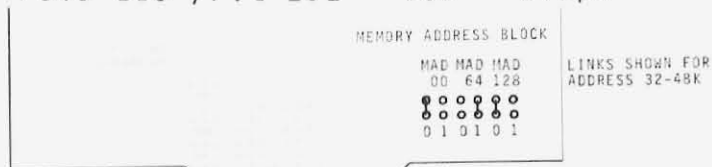
2 P843-108 /FI 1316 - 8k - 1.2 μ s



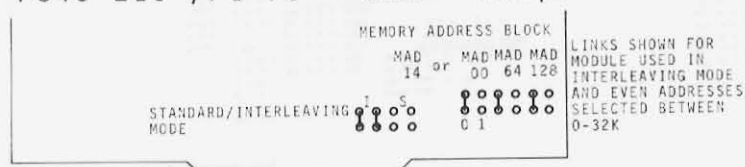
3 P843-116 /FI 1416 - 16k - 1.2 μ s



4 P843-116 /FTI 252 - 16k - 1.2 μ s



5 P843-216 /FI 70 - 16k - 0.7 μ s



6 P843-216 /FTI 251 - 16k - 0.7 μ s

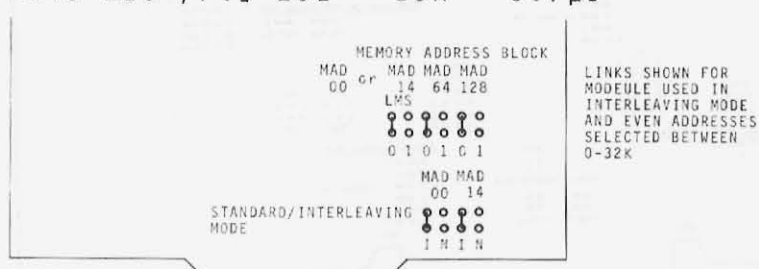
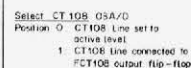


FIG. 2.7D LINKS ON PRINTED CIRCUIT BOARDS

W V U T S R Q P N M L K J H G F E D C B A



FA EB DE CA BA Z Y X W V U T S R Q P N M L K J I H G F E D C B A



AMA16

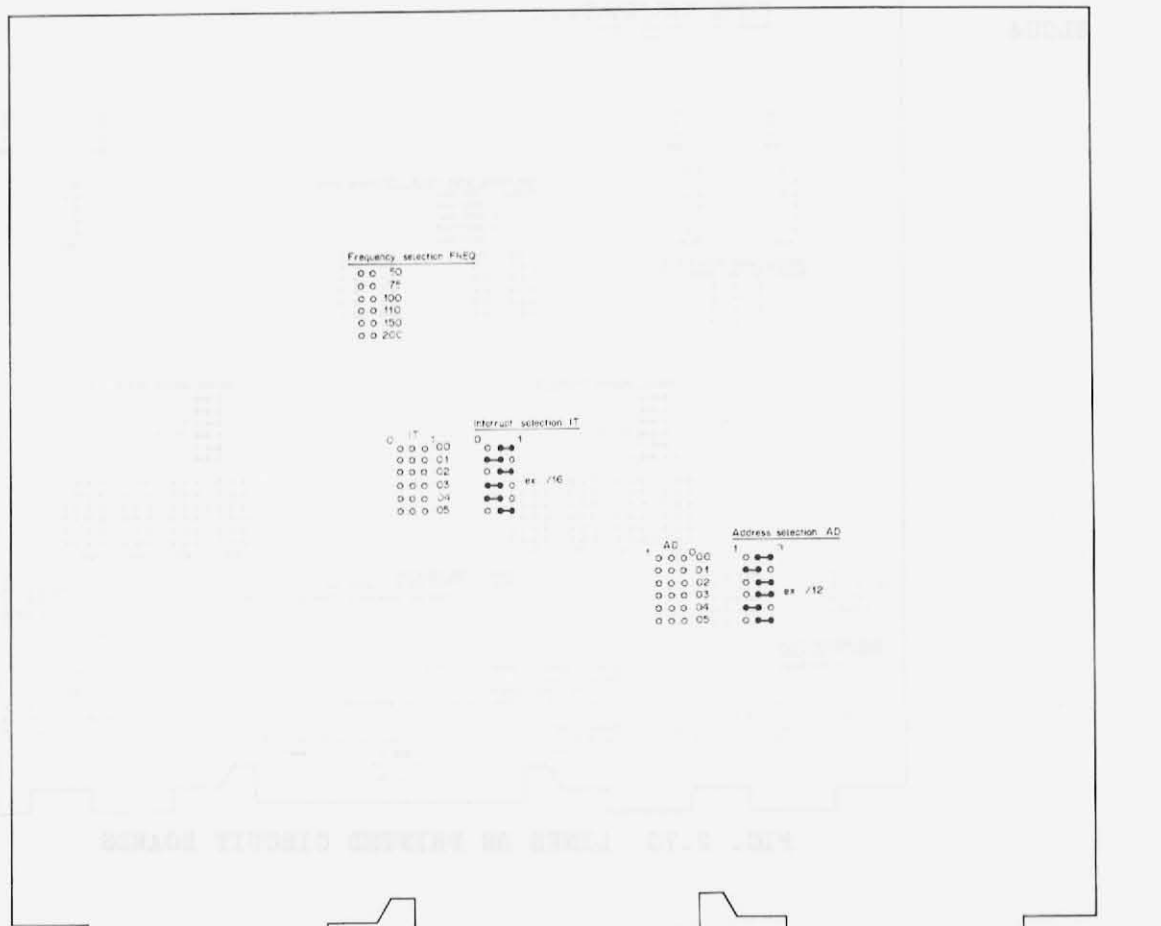
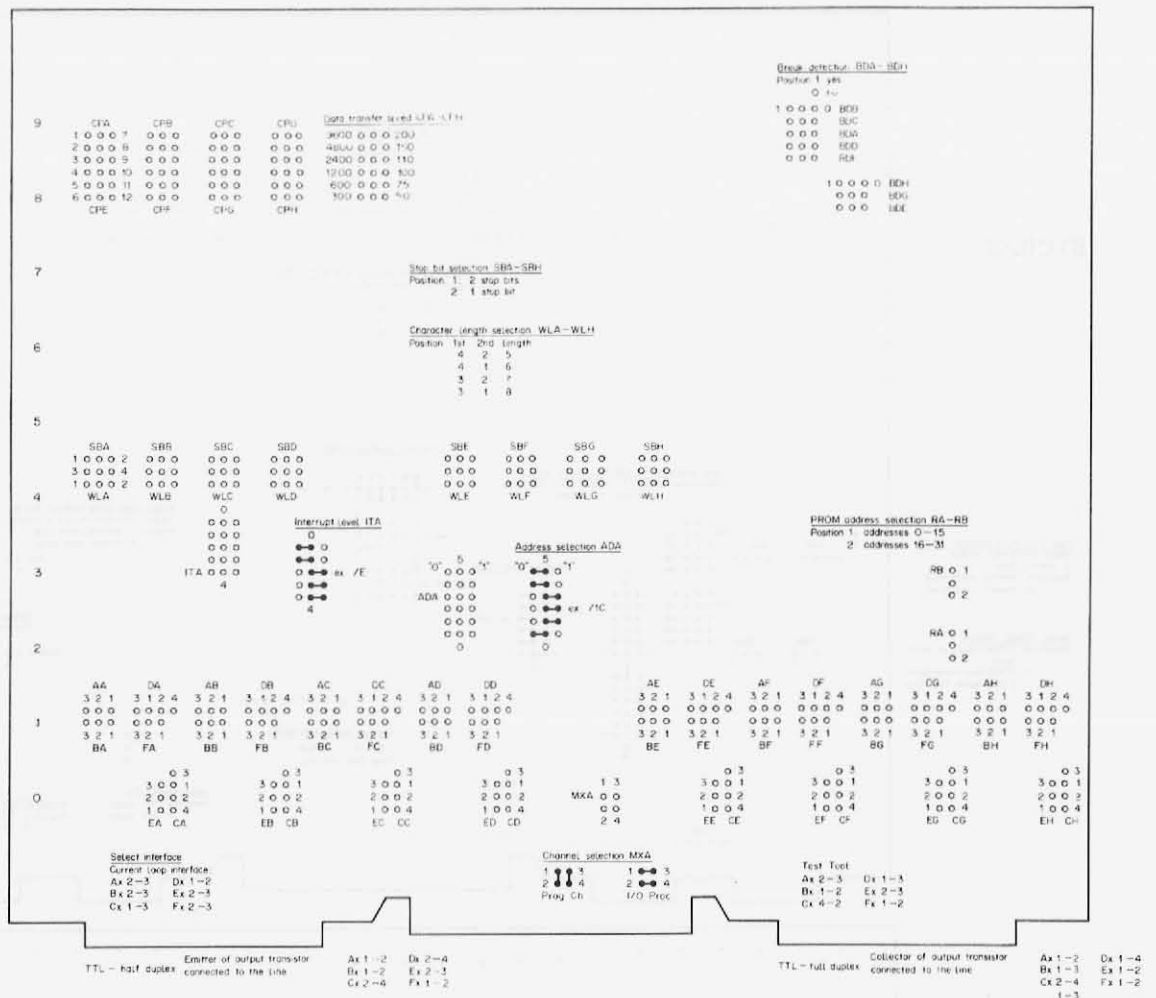


FIG. 2.7F LINKS ON PRINTED CIRCUIT BOARDS

SLCU4

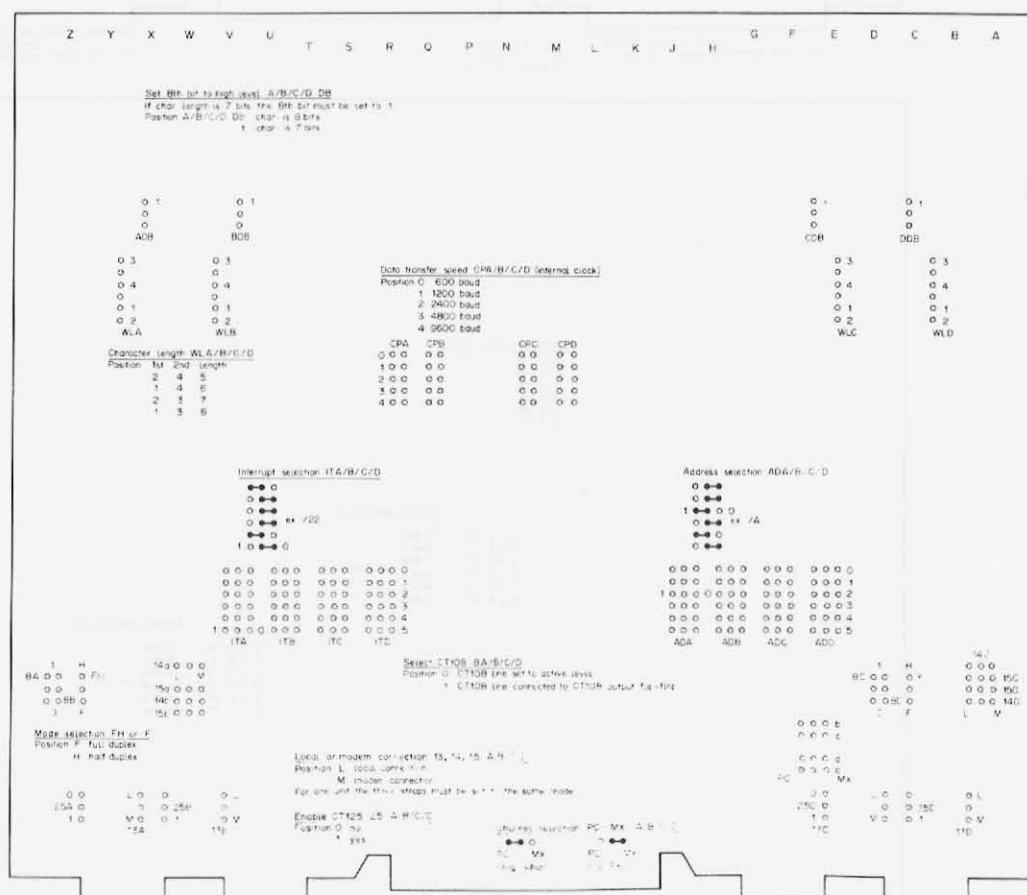
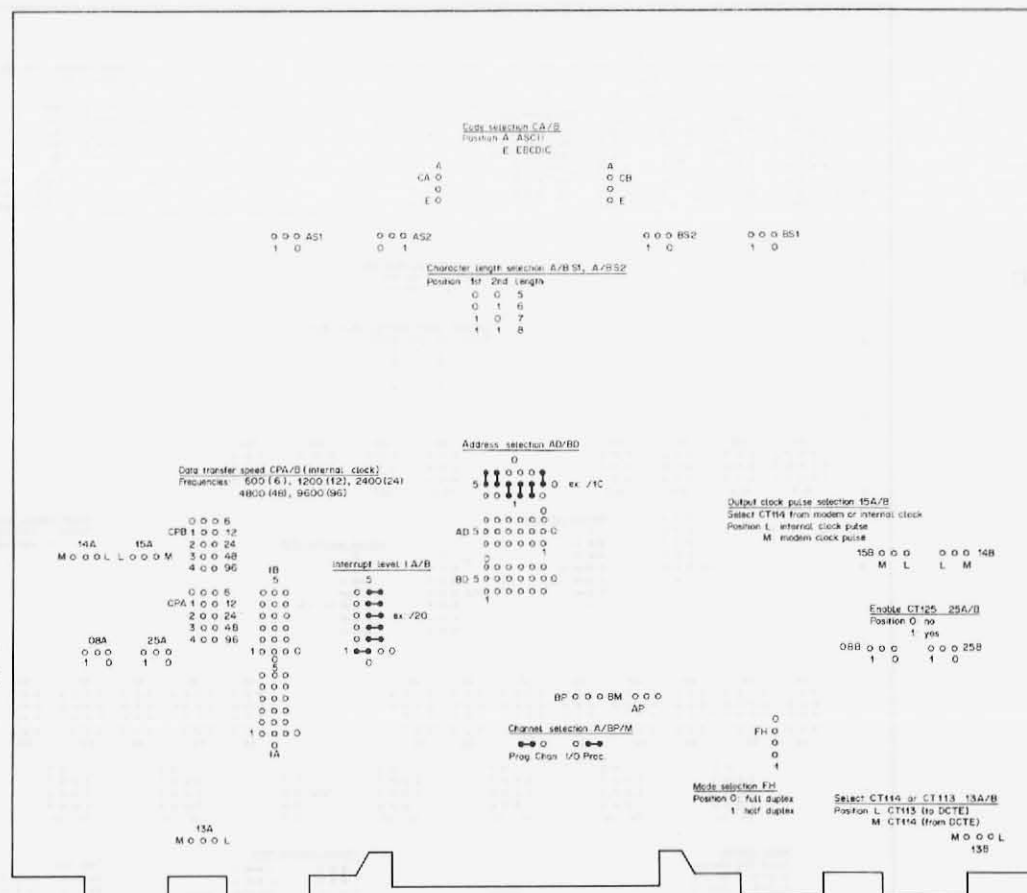


FIG. 2.7G LINKS ON PRINTED CIRCUIT BOARDS

Memory Board Links

The Memory location selection is preselected using links (see Figure 2.7B) - 5 links for the 4k module and 4 links for the 8k module. The complete memory location selection is shown in Table 2.1. below:

Table 2.1. Memory Location Selection

4k module. (MAD 64 and MAD 128 are always linked with 0)

	MAD 00	MAD 01	MAD 02
0-4k	0	0	0
4-8k	0	0	1
8-12k	0	1	0
12-16k	0	1	1
16-20k	1	0	0
20-24k	1	0	1
24-28k	1	1	0
28-32k	1	1	1

8k module. (MAD 64 and MAD 128 are always linked with 0)

	MAD 00	MAD 01
0-8k	0	0
8-16k	0	1
16-24k	1	0
24-32k	1	1

BREAK CABLE (DETAILS AS FOR TERMINATORS ON P843-001 EQUIPMENT SHELF) (SEE FIG. 2.4)
TERMINATORS

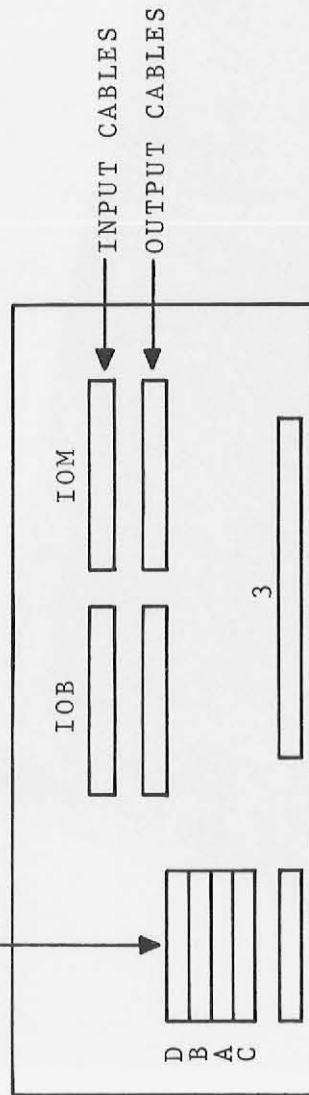
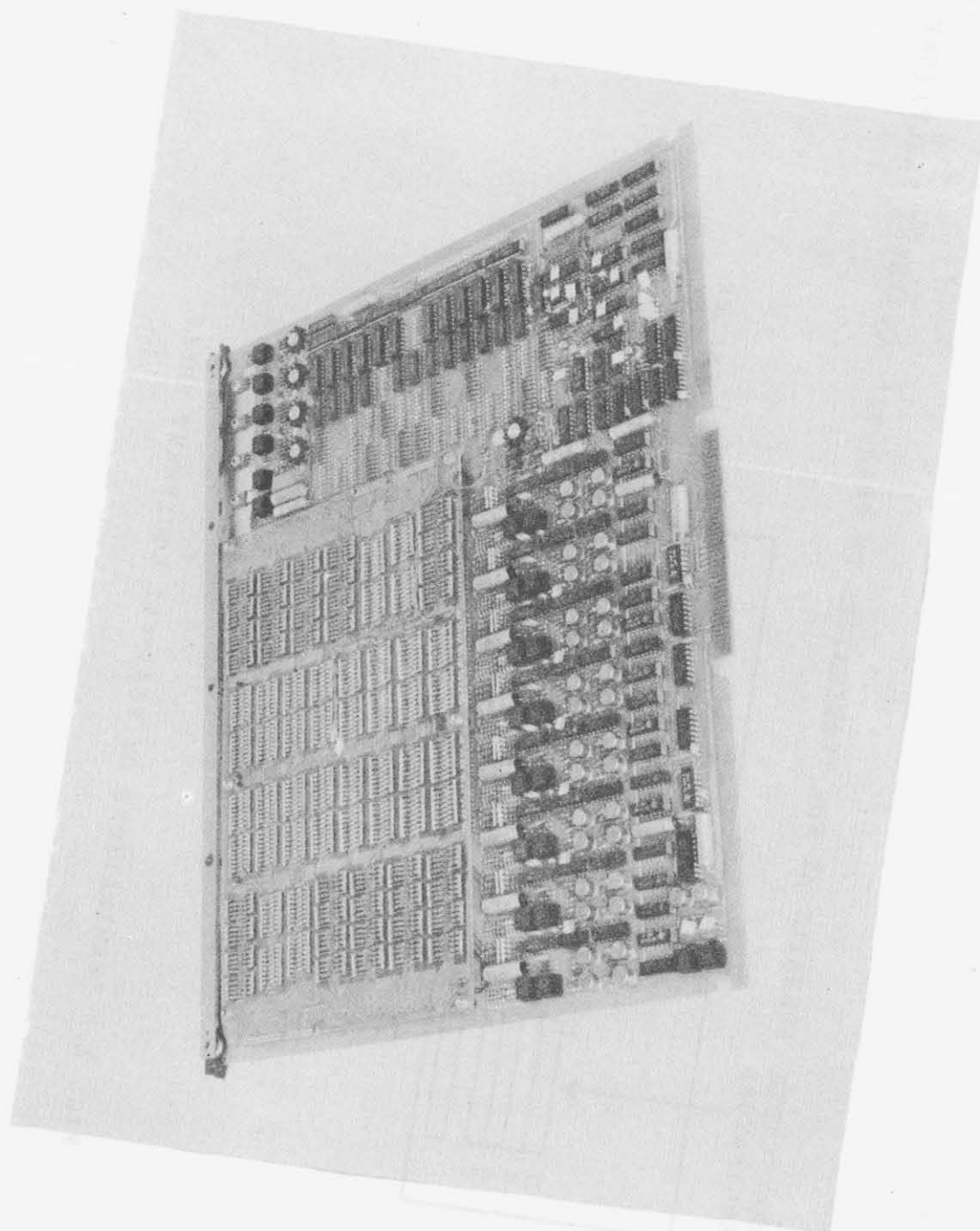


FIG. 2.8 TERMINATIONS ON P833-152 EQUIPMENT SHELF



Memory Board

PROCEDURE: 1. MOUNT DISC ON TELESCOPIC SLIDES AND DRAW FORWARD
 2. REMOVE L-SHAPED PROTECTIVE PLATE (2 SCREWS)
 3. REMOVE CABLE BRACKET FROM PROTECTIVE PLATE (2 SCREWS)-STORE PROTECTIVE PLATE
 4. ATTACH CABLE BRACKET TO BRACKET MOUNTING PLATE (2 SCREWS)

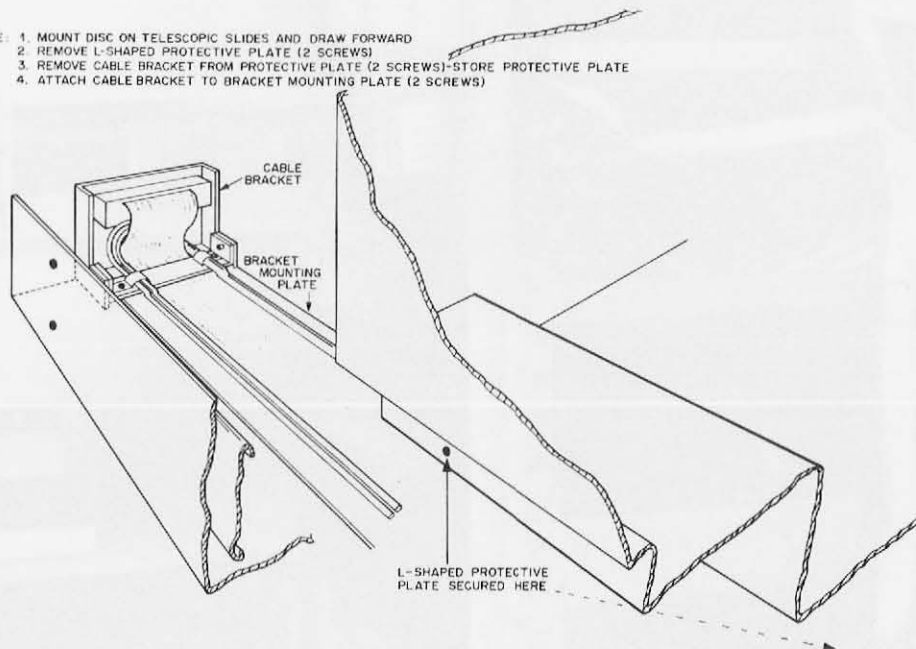
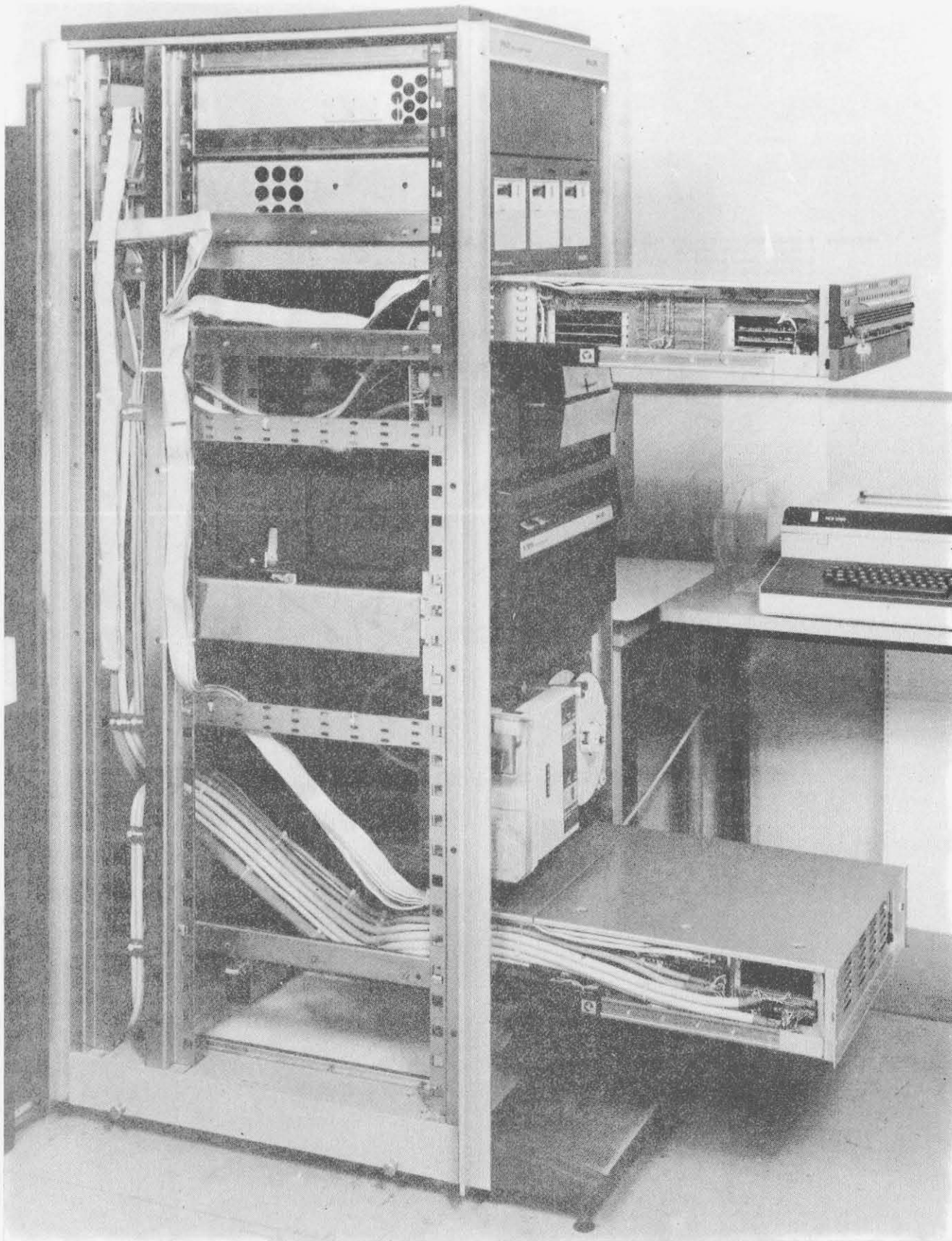
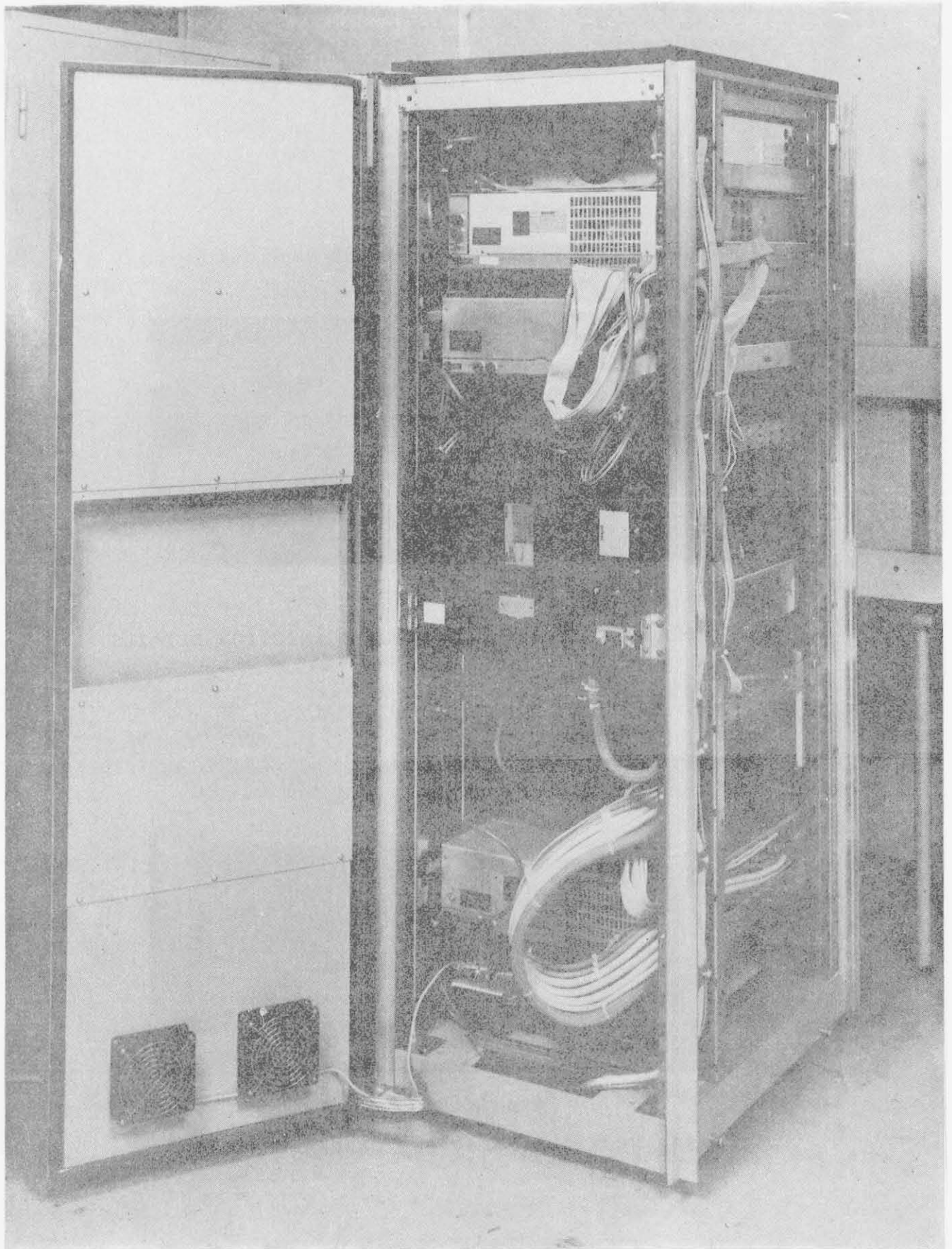


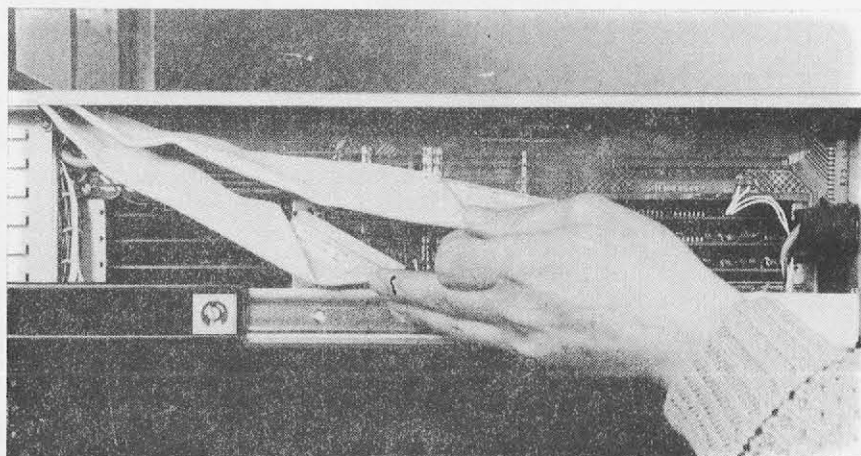
Figure 2.9. Mounting the P824-002 Moving Head Disc



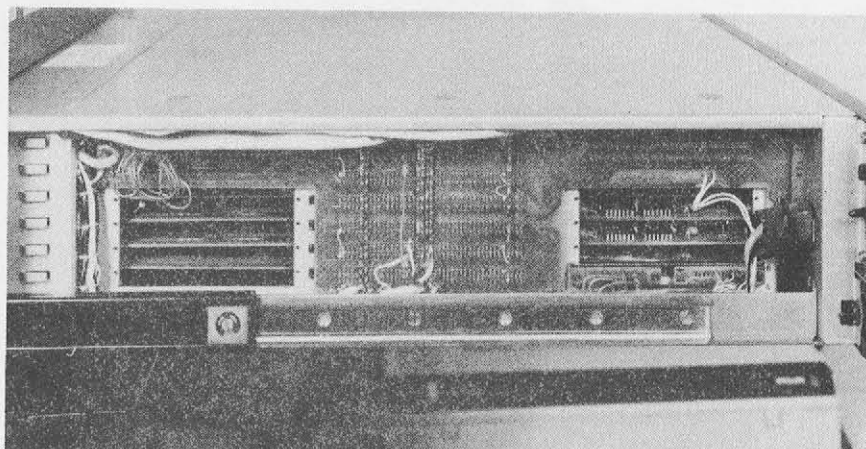
TYPICAL RACK WIRING - SIDE VIEW WITH SHELVES EXTENDED



TYPICAL RACK WIRING - REAR VIEW



BASIC MOUNTING BOX - BUS CABLE CONNECTION DETAILS



BASIC MOUNTING BOX - BUS CABLE CONNECTED